

Curriculum Vitae

Jeffrey Berryhill
Scientist

Business Address:

Fermi National Accelerator Laboratory	Telephone : (630) 840-8837
WH 11E, Mail Station 205	FAX : (630) 840-2194
Kirk & Pine Street	E-mail : berryhil@fnal.gov
Batavia, IL 60510	Home Page : http://home.fnal.gov/~berryhil

Research Experience:

- *Scientist I, Particle Physics Division, Fermi National Accelerator Laboratory, August 2010 – present:*

CMS project manager for the Stage 1 Level 1 Calorimeter Trigger upgrade (2014-5): Oversight of a global calorimeter trigger replacement with associated software, firmware, and hardware infrastructure, in time for the LHC Run 2 start-up in 2015. Management of thirty scientists and engineers at CERN and in the US.

Particle Physics Division CMS Group 4 supervisor (2014-present): line management in PPD for four other scientists.

Supervisor of CMS research associates (2008-present): supervision and mentoring of CMS RAs Kalanand Mishra (2008-2014), Nhan Tran (2011-present), Lindsey Gray (2012-present), and Ben Kreis (2013-present).

Head of the Multiboson with Jets Analysis Group (2014-present): a Fermilab LPC-based collaboration devoted to analysis of multiboson and Higgs boson physics topics in lepton+jets final states: standard model and anomalous production of WW , $WW\gamma$, vector-boson fusion production of W and $W\gamma$, and Higgs production in the WW and bb decay channels.

Co-convenor of the CMS Standard Model Physics Analysis Group (SMP PAG, 2012-3): Oversight of all physics analysis projects related to the understanding of Standard Model electroweak and QCD phenomena. Portfolio management of thirty projects executed by two hundred physicists. Group administration via four subgroups and a management team of twenty. Strategic planning, resource management, and review of all SMP projects.

Member, LHC Electroweak Working Group (2012-3), establishing common methods for analyzing electroweak and QCD phenomena at the LHC.

Coordinator of the CMS Electron/Photon Trigger Physics Subgroup (2011): management of the design and deployment for all electron and photon triggers in CMS, in coordination with needs of the physics organization. Roughly one hundred trigger paths maintained via a developer team of twenty physicists.

Deputy convenor of the CMS Electroweak Vector Boson Task Force (2011): Deputy coordination of analysis team measuring W and Z production cross sections with the full 2010 data sample.

Supervisors: Kevin Burkett, Patricia McBride (CMS Center)

- *Wilson Fellow, CMS Center, Fermi National Accelerator Laboratory, August 2006 – July 2010:*

Co-convenor of the CMS Electroweak Vector Boson Task Force (2010): Coordination of an analysis team of 150 physicists to make the first LHC measurement of W and Z production cross sections in first months of LHC operation at 7 TeV. A successful preliminary result was shown at ICHEP 2010 and a publication with 2.9/pb was subsequently submitted in Fall 2010.

Co-convenor of the CMS Physics Subgroup for the Electroweak Analysis of Electrons (2008-9): Devising strategies for the measurement of W and Z production cross sections with the first CMS data; organizing meetings; coordinating analysis work internally, with the general Electroweak Group, and with other physics groups, as required.

Coordinator of data quality monitoring of the CMS trigger in the offline software environment, as part of the CMS Trigger Performance Subgroup: developing software packages for trigger performance monitoring, for both low- and high-level triggering; coordinating software development by multiple specialists spread throughout the physics organization; maintaining software for operation in CMS commissioning exercises and validation of offline software releases.

Co-organizer, within the LHC Physics Center (LPC) at FNAL, of projects for electron and photon reconstruction/identification in US CMS, as overseen by the CMS electron/photon physics object group.

Creation of a framework for automating physics performance measurements (efficiencies, fake rates, and other high-level physics object studies) for use in physics analysis, as overseen by the CMS Physics Tools group.

Systematic measurement and study of lepton identification efficiency, as overseen by the CMS electron/photon physics object group.

Reviewer of simulation studies of the search for a W' boson at CMS, the measurement of Z boson production in association with jets, and the measurement of the W +jets/ Z +jets ratio and its application to searches .

Participant in numerous commissioning exercises (2006 MTCC, 2007-9 CMS Global Runs, 2008 CRUZET, and 2008-9 CRAFT runs) for training shifters, taking shifts (remotely and on-site), and exercising monitoring software. This included commissioning the first generation online monitoring software for both low- and high-level CMS trigger systems.

Supervisor: Lothar Bauerdick (CMS Center)

- *Postgraduate Researcher, University of California Santa Barbara, California, April 2001 – July 2006:*

Co-Convenor of the Radiative Penguin Analysis Working Group for the BaBar Collaboration, October 2003–July 2006

oversaw 20 active research topics with 13 recent publications

responsibilities included: chief organizer, planner, and public representative

broad advising role for all group activities including direct supervision of several graduate students.

Manager of a team of scientists and engineers who assembled and tested replacement modules for the silicon vertex tracker (SVT) in the BaBar detector, April 2001–December 2002

Observation of the flavor-changing neutral current decays $B \rightarrow K\ell^+\ell^-$ and $B \rightarrow K^*\ell^+\ell^-$ with the BaBar detector, and measurement of their angular distributions

Search for the rare decay $B \rightarrow \pi\ell^+\ell^-$

Reviewer of BaBar results in semileptonic decays of B mesons and a precision

measurement of $|V_{cb}|$

Supervisors: Jeff Richman and Claudio Campagnari

- *Research Associate, University of Chicago*
Chicago, Illinois, January 2001 – April 2001:
Searches for new physics in lepton-photon events with the CDF detector
Supervisor: Henry Frisch
- *Graduate Student Research Assistant, University of Chicago*
Chicago, Illinois, June 1994 – December 2000:
Searches for new physics in lepton-photon events with the CDF detector
Measurement of the forward-backward asymmetry of lepton pairs in Z/γ^* production with the CDF detector
Design of CDF Run II silicon vertex Level 2 trigger (SVT Hit Finder Board)
Creation of a comprehensive data format for high-level CDF physics objects (“Standard Ntuples”)
Maintained event generation software for CDF data simulation (PYTHIA)
Developer for the silicon vertex event display package for CDF data (DF)
Supervisor: Henry Frisch
- *Research Assistant, University of Chicago*
CERN, Geneva, Switzerland, June 1993-October 1993:
Analysis of silicon-tungsten luminometer data from the OPAL detector
Supervisor: Mark Oreglia
- *Research Assistant, Lawrence Berkeley National Laboratory*
Berkeley, California, May 1991-May 1993:
Design of cooling systems in silicon vertex detectors, for the D0 and SDC collaborations
Supervisor: Mark Strovink

Education:

- *Ph.D., Physics,*
Dissertation: *A Search for New Physics in Photon-Lepton Events in Proton-Antiproton Collisions at $\sqrt{s} = 1.8 \text{ TeV}$*
Adviser: Henry Frisch
December 2000: University of Chicago
Chicago, Illinois
- *B.A., Physics and Mathematics,*
with Highest Honors in Mathematics
and High Distinction in General Scholarship,
May 1993: University of California, Berkeley
Berkeley, California

Honors and Awards:

- *Enrico Fermi Institute 2000 Sugarman Award*
Awarded to advanced graduate students for excellence in research.
- *Mentor Graphics 2000 PCB Technology Leadership Award*
University Design Category, First Place
Awarded to Bill Ashmanskas, Jeff Berryhill, Mircea Bogdan, and Ray Culbertson for the SVT Hit Finder board design.

Laboratory Support:

- Wilson Fellowship committee (2014-2017): interview and hiring decisions for Wilson Fellowship candidates.
- CMS RA hiring committee (Fall 2013-present): interview and hiring decisions for all postdoctoral researchers for CMS Center.
- 2010 Hadron Collider Physics Summer School, Local Organizing Committee: Speaker/student selection, curriculum design, logistical support.
- Postdoc hiring committee, Particle Physics Division and CMS Center (Fall 2008-Summer 2013): interview and hiring decisions for all postdoctoral researchers for Particle Physics Division and CMS Center.

Conference Talks and Seminars:

- *Electroweak Working Group convenor*
Standard Model LHC Workshop
Florence, Italy, April 2015
- *Higgs and SM Physics Highlights from the LHC*
Next steps in the Energy Frontier - Hadron Colliders
Fermilab, August 2014
- *Summary of Electroweak Results at Hadron Colliders*
37th International Conference on High Energy Physics
Valencia, Spain, July 2014
- *Tests of the Electroweak Interactions at Hadron Colliders*
Frontiers in Particle Physics: From Dark Matter to the LHC and Beyond
Aspen Center for Physics, January 2014
- *Tests of the Electroweak Theory with the CMS Experiment at the LHC*
High Energy Physics Seminar
University of Chicago, October 2013
- *Tests of Vector Boson plus Jets Production at the LHC*
CTEQ Workshop on QCD Tools for LHC Physics
Fermilab, November 2013
- *W and Z Boson Physics with the CMS Experiment*
QCD@LHC 2012
Lansing, Michigan, August 2012
- *Seven Slogans for the Future of LHC Electroweak Physics*
Chicago 2012 workshop on LHC physics
Chicago, May 2012
- *Electroweak and Top Measurements from CMS*
Fermilab Joint Experimental-Theoretical Seminar
Fermilab, March 2011
- *Precision Measurement of W and Z Production with the CMS Detector*
Particle Physics Seminar
University of Notre Dame, November 2010

- *Prospects for Early Measurements of W and Z Bosons with CMS at the LHC*
International Conference on Particles and Nuclei (PANIC08)
Eilat, Israel, November 2008
- *Big Science's Next Big Bang: The Large Hadron Collider*
Fermilab 2008 Symposium on the Nature of Science
Fermilab, October 2008
- *Early Physics Prospects at CMS*
URA Theory Workshop, Beyond the Standard Model: from the Tevatron to the LHC
Fermilab, September 2008
- *Rare B Decays*
Flavor in the Era of the LHC
CERN, March 2007
- *B Physics at e^+e^- Colliders*
Fermilab Academic Lecture Series: Flavor Physics
Fermilab, February 2007
- *Working Group Convenor*
SUSY 2006: International Conference on Supersymmetry and the Unification of Fundamental Interactions
University of California, Irvine, California, June 2006
- *New Results from BaBar: Rare Meson Decays and the Search for New Phenomena*
XLIIth Rencontres de Moriond, Electroweak Interactions and Unified Theories
La Thuile, Italy, March 2006
- *Electroweak Penguin B Decays: $b \rightarrow s, d\gamma$ and $b \rightarrow s, d\ell\ell$*
SLAC/INT Workshop on Flavor Physics and QCD
University of Washington, May 2005
- *Electroweak Penguin B Decays at BaBar: $b \rightarrow s\gamma$ and $b \rightarrow s\ell\ell$*
Cornell/LNS Journal Club Seminar
Cornell University, April 2005
- *The Penguin and the Elephant*
Rutgers High Energy Physics Seminar
Rutgers University, March 2005
- *Working Group Summary on $|V_{td}|$ and $|V_{ts}|$*
2005 CKM Workshop on the Unitarity Triangle
University of California, San Diego, California, March 2005

- *Working Group Convenor*
2005 CKM Workshop on the Unitarity Triangle
University of California, San Diego, California, March 2005
- *Organizer and Discussion Leader*
 V_{ub} /Shape Function Workshop
Stanford Linear Accelerator Center, Menlo Park, California, December 2004
- *The Physics of Flavor: Half a Billion b Quarks for BaBar*
Texas A & M Physics Colloquium
College Station, Texas, November 2004
- *Radiative Penguin B Decays at BaBar*
32nd International Conference on High Energy Physics
Beijing, China, August 2004
- *Semileptonic B Decays and the Measurement of $|V_{cb}|$*
APS April Meeting 2004
Denver, Colorado, May 2004
- *The Physics of $b \rightarrow s\ell^+\ell^-$*
Super B Factory Workshop
University of Hawaii, Manoa, Hawaii, January 2004
- *Organizer and Discussion Leader*
 V_{xb} Workshop
Stanford Linear Accelerator Center, Menlo Park, California, December 2003
- *Photon Physics at the High Energy Frontier*
SLAC Experimental Seminar
Stanford Linear Accelerator Center, Menlo Park, California, January 2003
- *Photon Physics at the High Energy Frontier*
Fermilab Joint Experimental-Theoretical Seminar
Fermi National Accelerator Laboratory, May 2002
- *Results from Babar on the Rare Exclusive Decays $B \rightarrow K\ell^+\ell^-$ and $K^*\ell^+\ell^-$*
2002 Meeting of The Division of Particles and Fields
College of William and Mary, Williamsburg, Virginia, May 2002
- *Photon Physics at the High Energy Frontier*
BNL Particle Physics Seminar
Brookhaven National Laboratory, Upton, New York, March 2001

- *New Phenomena at the Tevatron*
XXXVI Rencontres de Moriond, Electroweak Interactions and Unified Theories
Les Arcs, France, March 2001
- *Photon Physics at the High Energy Frontier*
UCSB High Energy Physics Seminar
University of California, Santa Barbara, California January 2001
- *Lepton-Photon Physics at the High Energy Frontier*
LNS Journal Club HEP Seminar
Laboratory of Nuclear Studies, Ithaca, New York, February 2000
- *Forward-Backward Charge Asymmetry of Electron Pairs Above the Z^0 Pole at CDF*,
American Physical Society Meeting
Indianapolis, Indiana, May 1996
- *Measurement of Z^0 / γ^* Interference at CDF*,
New Perspectives Conference
Fermi National Accelerator Laboratory, Batavia, Illinois, June 1996
- *Forward-Backward Charge Asymmetry of Electron Pairs Above the Z^0 Pole at CDF*,
HEP Lunch Seminar
University of Chicago, Chicago, Illinois, February 1996

Societies:

- American Physical Society, 1993-present.
- Phi Beta Kappa Society, Alpha of California Chapter, initiated 1993.

Publications

A) Publications and Preprints with Principal Authorship or Major Contributions

CMS publications

1. Search for the standard model Higgs boson decaying to bottom quarks in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Lett. B **710** (2012) 284.
2. Measurement of the inclusive W and Z production cross sections in pp collisions at $\sqrt{s} = 7$ TeV with the CMS experiment
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **10** (2011) 132.
3. Measurements of inclusive W and Z cross sections in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **01** (2011) 080.
4. Commissioning of the CMS high level trigger with cosmic rays
S. Chatrchyan *et al.* (CMS Collaboration), J. Instrum. **5** (2010) T03005.
5. Towards a measurement of the inclusive $W \rightarrow e\nu$ and $\gamma^*/Z \rightarrow e^+e$ cross sections in pp collisions at $\sqrt{s} = 10$ TeV
The CMS Collaboration, CMS-PAS-EWK-09-004 (2009).
6. Towards a measurement of the inclusive $W \rightarrow e\nu$ and $\gamma^*/Z \rightarrow e^+e$ cross sections in pp collisions at $\sqrt{s} = 14$ TeV
The CMS Collaboration, CMS-PAS-EWK-08-005 (2008).
7. Measuring electron efficiencies at CMS with early data
The CMS Collaboration, CMS-PAS-EGM-07-001 (2008).
8. B , D , and K decays, report of Working Group 2 of the CERN Workshop on Flavor in the Era of the LHC, Geneva, Switzerland, 6-8 Feb 2006
M. Artuso *et al.*, Eur. Phys. J. C **57** (2008) 309.

CMS Multiboson-Jets Analysis Group publications

1. Search for the Standard Model Higgs boson in the H to WW to $\ell\nu jj$ decay channel in pp collisions at the LHC
The CMS Collaboration, CMS-PAS-HIG-13-027 (2014).

2. Search for a Standard Model-like Higgs boson decaying into $WW \rightarrow l\nu qq$ in pp collisions at $\sqrt{s} = 8$ TeV
The CMS Collaboration, CMS-PAS-HIG-13-008 (2013).
3. Search for massive resonances in dijet systems containing jets tagged as W or Z boson decays in pp collisions at $\sqrt{s} = 8$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **08** (2014) 173 (2013).
4. A search for $WW\gamma$ and $WZ\gamma$ production and constraints on anomalous quartic gauge couplings in pp collisions at $\sqrt{s} = 8$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. D **90** (2014) 032008.
5. Search for a standard-model-like Higgs boson with a mass of up to 1 TeV at the LHC
S. Chatrchyan *et al.* (CMS Collaboration), Eur. Phys. J. C **73**, 2469 (2013).
6. Search for a W' boson decaying to a bottom quark and a top quark in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Lett. B **718** (2013) 1229
7. Studies of jet mass in dijet and W/Z + jet events
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **05** (2013) 090.
8. Measurement of the sum of WW and WZ production with W +dijet events in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Eur. Phys. J. C **73** (2013) 2283.
9. Study of the dijet mass spectrum in $pp \rightarrow W$ + jets events at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. Lett. **109** (2012) 251801.

BaBar publications

1. Search for the rare decay $B \rightarrow \pi \ell^+ \ell^-$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **99** (2007) 051801.
2. Measurements of branching fractions, rate asymmetries, and angular distributions in the rare decays $B \rightarrow K \ell^+ \ell^-$ and $B \rightarrow K^* \ell^+ \ell^-$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. D **73** (2006) 092001.
3. Measurements of the rare decays $B \rightarrow K \ell^+ \ell^-$ and $B \rightarrow K^* \ell^+ \ell^-$
B. Aubert *et al.* (BaBar Collaboration), hep-ex/0507005,
BABAR-CONF-05/07, SLAC-PUB-11330, contributed to Lepton-Photon 2005.

4. Evidence for the rare decay $B \rightarrow K^* \ell^+ \ell^-$ and measurement of the $B \rightarrow K \ell^+ \ell^-$ branching fraction
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **91** (2003) 221802.

CDF Run I publications

1. Search for new physics in photon-lepton events in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV
D. Acosta *et al.* (CDF Collaboration), Phys. Rev. Lett. **89** (2002) 041802.
2. Search for new physics in photon-lepton events in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV
D. Acosta *et al.* (CDF Collaboration), Phys. Rev. D **66** (2002) 012004.
3. Forward-backward charge asymmetry of electron pairs above the Z^0 pole
F. Abe *et al.* (CDF Collaboration), Phys. Rev. Lett. **77** (1996) 2616.

B) Preprints and Publications overseen as co-convener

CMS Standard Model Physics Analysis Group, 2012-3 (preliminary approved or published)

1. Measurement of the inclusive 3-jet production differential cross section in proton-proton collisions at 7 TeV and determination of the strong coupling constant in the TeV range
V. Khachatryan *et al.* (CMS Collaboration), submitted to EPJC, arXiv:1412.1633.
2. Constraints on parton distribution functions and extraction of the strong coupling constant from the inclusive jet cross section in pp collisions at $\sqrt{s} = 7$ TeV
V. Khachatryan *et al.* (CMS Collaboration), submitted to EPJC, arXiv:1410.6765.
3. Study of hadronic event-shape variables in multijet final states in pp collisions at $\sqrt{s} = 7$ TeV
V. Khachatryan *et al.* (CMS Collaboration), JHEP **10** (2014) 87.
4. Measurement of the ratio of inclusive jet cross sections using the anti- k_T algorithm with radius parameters $R=0.5$ and 0.7 in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. D **90** (2014) 072006.
5. Measurement of the pp to ZZ production cross section and constraints on anomalous triple gauge couplings in four-lepton final states at $\sqrt{s} = 8$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Lett. B **740** (2014) 250.
6. Measurement of differential cross sections for the production of a pair of isolated photons in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Eur. Phys. J. C **74** (2014) 3129.

7. A search for $WW\gamma$ and $WZ\gamma$ production and constraints on anomalous quartic gauge couplings in pp collisions at $\sqrt{s} = 8$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. D **90** (2014) 032008.
8. Measurement of WZ and ZZ production in pp collisions at $\sqrt{s} = 8$ TeV in final states with b-tagged jets
S. Chatrchyan *et al.* (CMS Collaboration), Eur. Phys. J. C **74** (2014) 2973.
9. Measurement of the production cross sections for a Z boson and one or more b jets in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **06** (2014) 120.
10. Measurement of inclusive W and Z boson production cross sections in pp collisions at $\sqrt{s} = 8$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. Lett. **112** (2014) 191802.
11. Measurement of the production cross section for a W boson and two b jets in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Lett. B **735** (2014) 204.
12. Measurement of the muon charge asymmetry in inclusive $pp \rightarrow W + X$ production at $\sqrt{s}=7$ TeV and an improved determination of light parton distribution functions
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. D **90** (2014) 032004.
13. Measurement of the triple-differential cross section for photon+jets production in proton-proton collisions at $\sqrt{s}=7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **06** (2014) 009.
14. Probing color coherence effects in pp collisions at $\sqrt{s}=7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Eur. Phys. J. C **74** (2014) 2901.
15. Measurement of the differential and double-differential Drell-Yan cross sections in proton-proton collisions at $\sqrt{s}=7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **12** (2013) 030.
16. Rapidity distributions in exclusive Z + jet and photon + jet events in pp collisions at $\sqrt{s}=7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. D **88** (2013) 112009.
17. Measurement of the cross section and angular correlations for associated production of a Z boson with b hadrons in pp collisions at $\sqrt{s}=7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **12** (2013) 039.

18. Measurement of associated $W + \text{charm}$ production in pp collisions at $\sqrt{s}=7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **02** (2014) 013.
19. Measurement of the production cross section for $Z\gamma \rightarrow \nu\bar{\nu}\gamma$ in pp collisions at $\sqrt{s} = 7$ TeV and limits on $ZZ\gamma$ and $Z\gamma\gamma$ triple gauge boson couplings
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **10** (2013) 164.
20. Measurement of the $W\gamma$ and $Z\gamma$ inclusive cross sections in pp collisions at $\sqrt{s} = 7$ TeV and limits on anomalous triple gauge boson couplings
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. D **89** (2014) 092005.
21. Measurement of the $W+W$ cross section in pp collisions at $\sqrt{s}=7$ TeV and limits on anomalous $WW\gamma$ and WWZ couplings
S. Chatrchyan *et al.* (CMS Collaboration), Eur. Phys. J. C **73** (2013) 2610.
22. Measurement of the ratio of the inclusive 3-jet cross section to the inclusive 2-jet cross section in pp collisions at $\sqrt{s} = 7$ TeV and first determination of the strong coupling constant in the TeV range
S. Chatrchyan *et al.* (CMS Collaboration), Eur. Phys. J. C **73** (2013) 2604.
23. Studies of jet mass in dijet and $W/Z + \text{jet}$ events
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **05** (2013) 090.
24. Measurement of $W+W^-$ and ZZ production cross sections in pp collisions at $\sqrt{s} = 8$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Lett. B **721** (2013) 190.
25. Event shapes and azimuthal correlations in $Z + \text{jets}$ events in pp collisions at $\sqrt{s}=7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Lett. B **722** (2013) 238.
26. Measurements of differential jet cross sections in proton-proton collisions at $\sqrt{s}=7$ TeV with the CMS detector
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. D **87** (2013) 112002.
27. Measurement of the ZZ production cross section and search for anomalous couplings in $2l2l'$ final states in pp collisions at $\sqrt{s}=7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **01** (2013) 063.
28. Measurement of the sum of WW and WZ production with $W+\text{dijet}$ events in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Eur. Phys. J. C **73** (2013) 2283.

29. Observation of Z decays to four leptons with the CMS detector at the LHC
S. Chatrchyan *et al.* (CMS Collaboration), JHEP **12** (2012) 034.
30. Study of the dijet mass spectrum in $pp \rightarrow W + \text{jets}$ events at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. Lett. **109** (2012) 251801.
31. Forward-backward asymmetry of Drell-Yan lepton pairs in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Lett. B **718** (2013) 752.
32. Measurement of the electron charge asymmetry in inclusive W production in pp collisions at $\sqrt{s} = 7$ TeV
S. Chatrchyan *et al.* (CMS Collaboration), Phys. Rev. Lett. **109** (2012) 111806.

BaBar Radiative Penguin Analysis Working Group, 2003-6

1. Search for the rare decay $B \rightarrow \pi \ell^+ \ell^-$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **99** (2007) 051801.
2. Branching fraction measurements of $B^+ \rightarrow \rho^+ \gamma$, $B^0 \rightarrow \rho^0 \gamma$, and $B^0 \rightarrow \omega \gamma$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **98** (2007) 151802.
3. Measurement of B decays to $\phi K \gamma$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. D **75** (2007) 051102.
4. Measurement of the branching fraction and photon energy moments of $B \rightarrow X(s) \gamma$ and $A_{CP}(B \rightarrow X(s+d) \gamma)$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **97** (2006) 171803.
5. Measurements of branching fractions, rate asymmetries, and angular distributions in the rare decays $B \rightarrow K \ell^+ \ell^-$ and $B \rightarrow K^* \ell^+ \ell^-$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. D **73** (2006) 092001.
6. Measurement of branching fractions in radiative B decays to $\eta K \gamma$ and search for B decays to $\eta' K \gamma$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. D **74** (2006) 031102.
7. Measurements of the $B \rightarrow X_s \gamma$ branching fraction and photon spectrum from a sum of exclusive final states
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. D **72** (2005) 052004.
8. Measurement of the time-dependent CP-violating asymmetry in $B^0 \rightarrow K_S^0 \pi^0 \gamma$ decays
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. D **72** (2005) 051103.

9. Measurement of branching fractions and mass spectra of $B \rightarrow K\pi\pi\gamma$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **98** (2007) 211804.
10. Search for the radiative decay $\bar{B}^0 \rightarrow \phi\gamma$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. D **72** (2005) 091103(R).
11. Search for the rare decay $\bar{B}^0 \rightarrow D^{*0}\gamma$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. D **72** (2005) 051106(R).
12. Measurement of the $B^0 \rightarrow K_2^{*0}(1430)\gamma$ and $B^+ \rightarrow K_2^{*+}(1430)\gamma$ branching fractions
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. D **70** (2004) 091105.
13. Search for the radiative penguin decays $B^+ \rightarrow \rho^+\gamma$, $B^0 \rightarrow \rho^0\gamma$, and $B^0 \rightarrow \omega\gamma$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **94** (2005) 011801.
14. Measurement of branching fractions, and CP and isospin asymmetries, for $B \rightarrow K^*\gamma$
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. D **70** (2004) 112006.
15. Measurement of time-dependent CP-violating asymmetries in $B^0 \rightarrow K^{*0}\gamma(K^{*0} \rightarrow K_S^0\pi^0)$ decays
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **93** (2004) 201801.
16. Measurement of the $B \rightarrow X_s\ell^+\ell^-$ branching fraction with a sum over exclusive modes
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **93** (2004) 081802.
17. Measurement of the direct CP asymmetry in $b \rightarrow s\gamma$ decays
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **93** (2004) 021804.
18. Evidence for the rare decay $B \rightarrow K^*\ell^+\ell^-$ and measurement of the $B \rightarrow K\ell^+\ell^-$ branching fraction
B. Aubert *et al.* (BaBar Collaboration), Phys. Rev. Lett. **91** (2003) 221802.

A complete list of publications with my name on them can be browsed at SPIRES.